

# MARINE LIFE FIELD GUIDE

NEPTUNE Canada



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**NEPTUNE Canada**  
Transforming Ocean Science

# **MARINE LIFE FIELD GUIDE**

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# INTRODUCTION

Over the first two years of operations, NEPTUNE Canada has collected thousands of photographs and hundreds of hours of video during installation dives and from underwater cameras installed across our subsea network. This unpublished image collection, that will continue to grow, provides a unique opportunity to build an important database on deep-sea species in the Northeast Pacific.

Without an authoritative reference work adapted to the study area of NEPTUNE Canada, it is difficult to correctly identify species observed during dives. One of the first steps in discovering and understanding biodiversity is to identify the organisms. NEPTUNE Canada's team is therefore developing a visual identification guide that will help "dive loggers" improve the quality of real-time video annotations during the cruises. Eventually, the guide could be adapted for the general public and for science-oriented crowdsourcing (citizen science) projects such as Digital Fishers (<http://digitalfishers.net>).

The Marine Life Field Guide presents more than a hundred different species, which are commonly observed during our dives or by our underwater cameras, mainly at more than one thousand meters depth. Some rarely observed species are also included. For each species, we provide the best information possible, being limited by the availability of experts and the quality of the photographs. In addition, because all identifications were made from imagery, we include a rating scale to indicate confidence levels for species identifications.

The first goal of this tool is to ensure the use of a common and scientifically valid language when dive loggers, experts or not, enter annotations about marine life visible in imagery. We have therefore endeavored to keep the guide simple. For example, all species are first organized by phyla, but we have not divided phyla into lesser ranks, such as classes and orders. Instead, we have arranged species more informally, based on external similarities.

The Marine Life Field Guide is the first compilation and identification document for species observed by NEPTUNE Canada's team. The guide will be improved over the years through the addition of new species, better photographs and more complete scientific information about observed species. This new tool will contribute to increasing our knowledge of deep-sea organisms in the Northeast Pacific, including their spatial distribution and long-term variations in species abundance and community composition.

# HOW TO USE THE GUIDE

## Study the guide before a dive

As a “dive logger”, you should keep in mind the fact that “The more you know, the more you see.” It will always be better to study the guide before a cruise to get an idea, in advance, of what you can see in each different area. This way, you will see more species, take more and better photos, and contribute to the improvement of the guide by photographing species that we have yet to document, or those that deserve better photos.

## It's better to be less precise than incorrect

After studying the guide, you can notice that some species are very similar and difficult to distinguish even when you have two pictures side by side. In some cases, it's even impossible to identify species without a specimen in your hands or without using a microscope. Looking at the confidence level selected for each species can help you to know if the identification of this species is difficult or not. If you have any doubt, it is better just annotating the right phylum (match with the chapter of the guide) or the right group (match with the subtitle of the guide). We can always later ask a specialist to identify the species.

## To learn more

This guide acquaints you with the species that you can see on our underwater network. For more details on these species, such as key features, we recommend that you make use of the bibliography at the end of this document.

## Give your comments

Please give us your feedback and help us to identify new species yet to be discovered at:  
<http://www.neptunecanada.ca/fieldguide/>.

## Fields used in this guide



Deep sea skate	①
<i>Bathyraja abyssicola</i>	②
<b>Location</b>	ODP 1027
<b>Depth</b>	2322 meters
<b>Date</b>	10 July 2011
<b>Image ID</b>	122a
<b>Confidence</b>	● ● ○
<b>Comments</b>	③

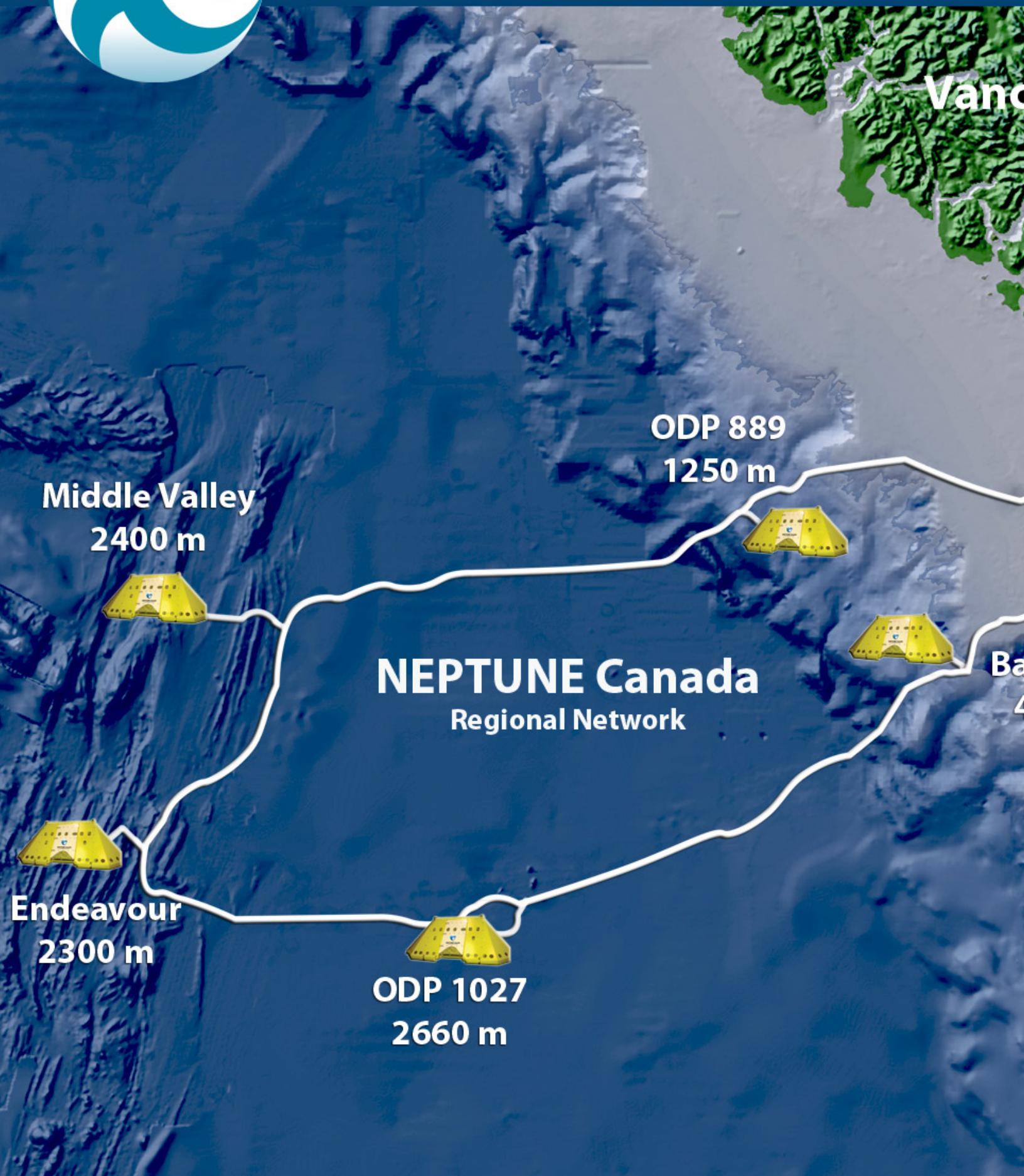
3 spines mid dorsal.

- ① Common name or common used taxonomic rank when the common name is undetermined.
- ② Scientific name. For a lower rank than the genus, we have included the information in the section “comments”.
- ③ Photographic location (see page 10-11)
- ④ ROV depth at which the picture was taken
- ⑤ Date at which the picture was taken
- ⑥ Reference number
- ⑦ Rating scale indicates the confidence level about species identification
- ⑧ Key features of the species, interesting behavior, diagnostic characters, etc.

\* You can see two green dots on some of the pictures. It is a 10 centimeters laser scale from the ROV.



# THE OCEAN NETWORK

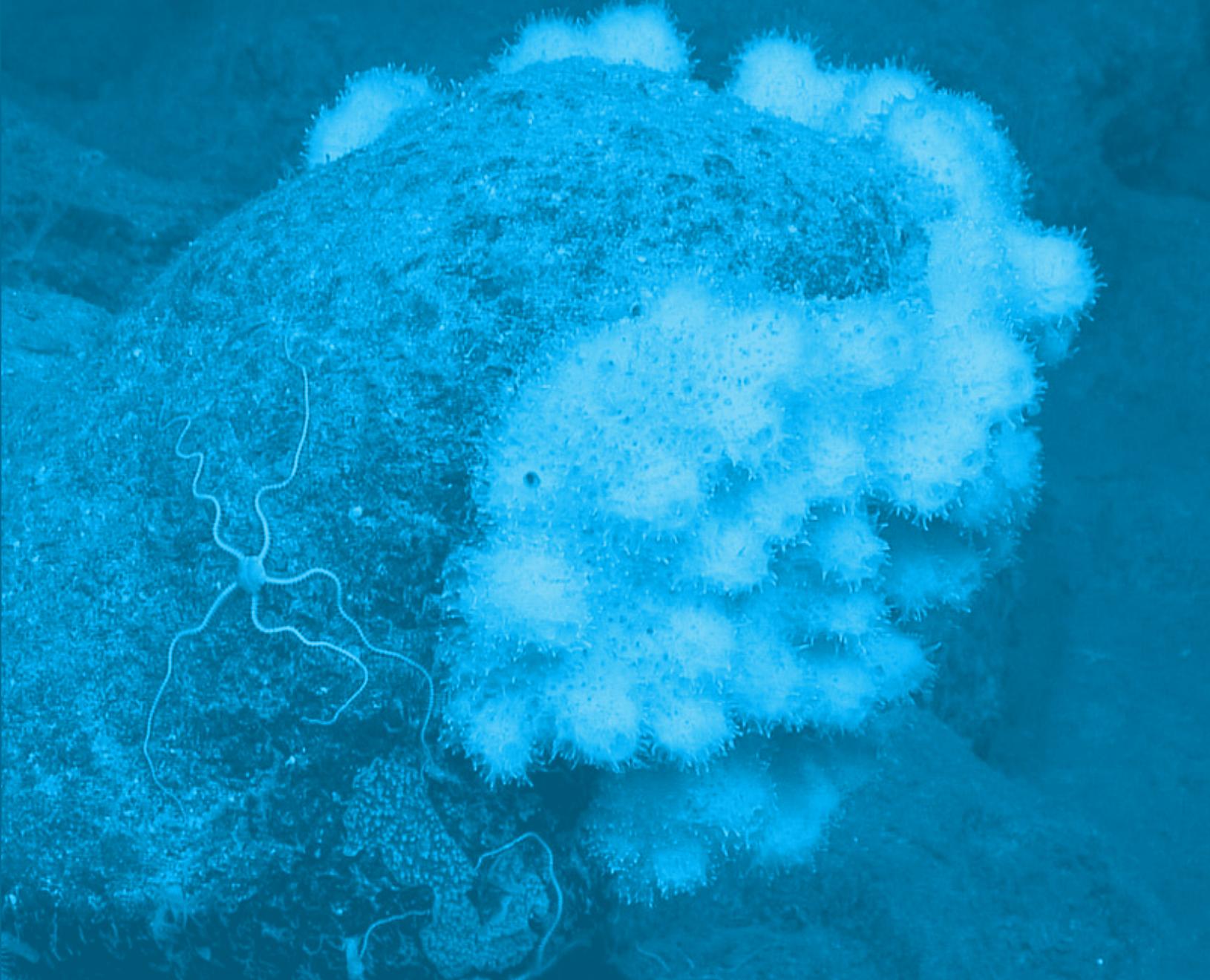


# WORKS CANADA OBSERVATORY





# SPONGES



## GLASS SPONGES



Round lipped boot sponge

*Staurocalyptus dowlingi*

**Location** Endeavour  
**Depth** 2308 meters  
**Date** 19 July 2011  
**Image ID** 1  
**Confidence** ●○○

**Comments**

*Staurocalyptus dowlingi* and *Rhabdocalyptus dawsoni* can sometimes look virtually identical in a photo in the same habitat.



Sharp lipped boot sponge

*Rhabdocalyptus dawsoni*

**Location** Endeavour  
**Depth** 2161 meters  
**Date** 24 July 2011  
**Image ID** 2  
**Confidence** ●○○

**Comments**

*Staurocalyptus dowlingi* and *Rhabdocalyptus dawsoni* can sometimes look virtually identical in a photo in the same habitat.



No common name

*Staurocalyptus* sp.

**Location** Barkley Canyon  
**Depth** 959 meters  
**Date** 8 August 2006  
**Image ID** 3  
**Confidence** ●○○

**Comments**

Many boot sponges in this area share similar morphology; an image alone is inadequate to separate them.

## GLASS SPONGES

## Fluted funnel sponge

*Poliopogon mendocino*

**Location** Endeavour  
**Depth** 2304 meters  
**Date** 20 July 2011  
**Image ID** 4  
**Confidence** ●●○

**Comments**

This species, *Poliopogon mendocino*, is known only from one specimen collected from Mendocino Ridge, North California.



## Undetermined species

**Location** Endeavour  
**Depth** 2318 meters  
**Date** 20 July 2011  
**Image ID** 5  
**Confidence** ○○○

**Comments**

It might not be a glass sponge. No glass sponges with this morphology are known so far from the region.



## No common name

*Saccocalyx pedunculatus*

**Location** Endeavour  
**Depth** 2324 meters  
**Date** 10 July 2011  
**Image ID** 6  
**Confidence** ●○○

**Comments**

This is probably a specimen of the common stalked deep-water species known from off North California.



## GLASS SPONGES



No common name

*Acanthascus* sp.

**Location** Barkley Canyon

937 meters

**Depth**

16 September 2009

**Date**

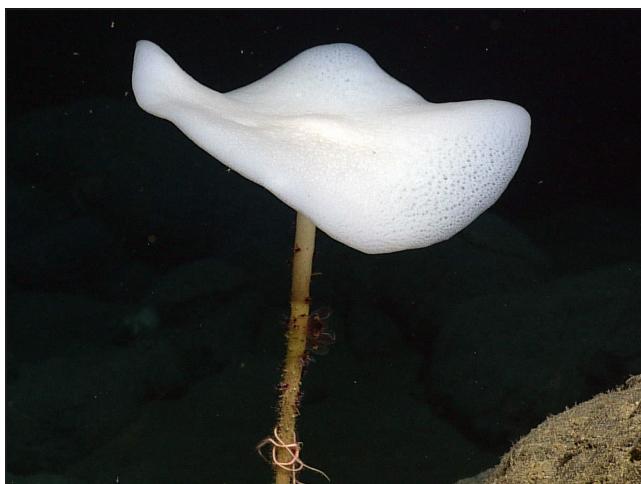
7

**Image ID**

● ○ ○

**Comments**

There is so far no known species in the area with this morphology.



No common name

*Caulophacus* sp.

**Location** Endeavour

2170 meters

**Depth**

14 September 2010

**Date**

8

**Image ID**

● ● ○

**Comments**

There are no identified species of *Caulophacus* known from this region.



Undetermined species

**Location** Endeavour

2145 meters

**Depth**

22 July 2011

**Date**

9

**Image ID**

○ ○ ○

**Comments**

It might be a demosponge.

## GLASS SPONGES

No common name

*Bathydorus* sp. or *Staurocalyptus* sp.

**Location** Barkley Canyon

**Depth** 904 meters

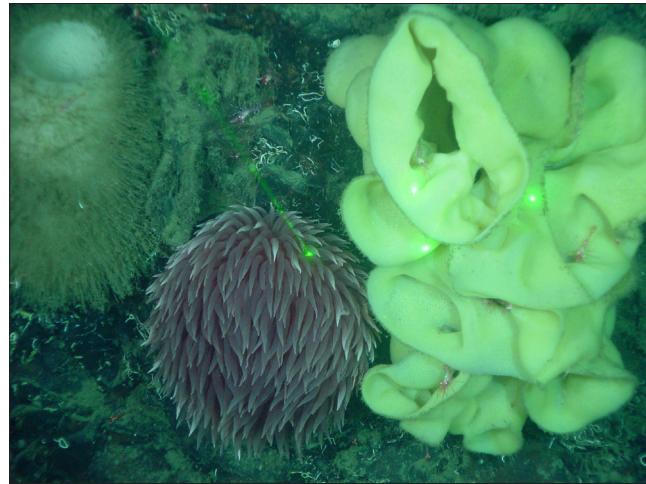
**Date** 8 August 2006

**Image ID** 10

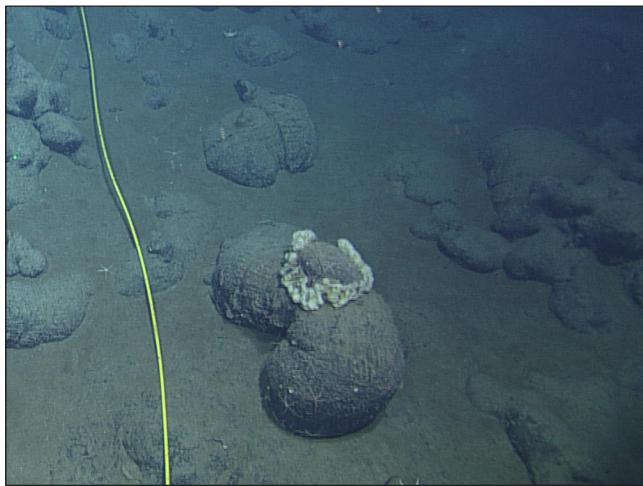
**Confidence** ●○○

**Comments**

There is also a sharp-lipped boot sponge (*Rhabdochalyptus dawsoni*) on the left and a pom-pom anemone. This a good example of a common local species.



## DEMOSPONGES



Undetermined species

**Location** Endeavour  
**Depth** 2134 meters  
**Date** 10 July 2011  
**Image ID** 11  
**Confidence** ○○○  
**Comments**



Undetermined species

**Location** Barkley Canyon  
**Depth** 402 meters  
**Date** 23 July 2011  
**Image ID** 12  
**Confidence** ●○○  
**Comments**



Undetermined species

**Location** Endeavour  
**Depth** 2171 meters  
**Date** 23 July 2011  
**Image ID** 13  
**Confidence** ○○○  
**Comments**

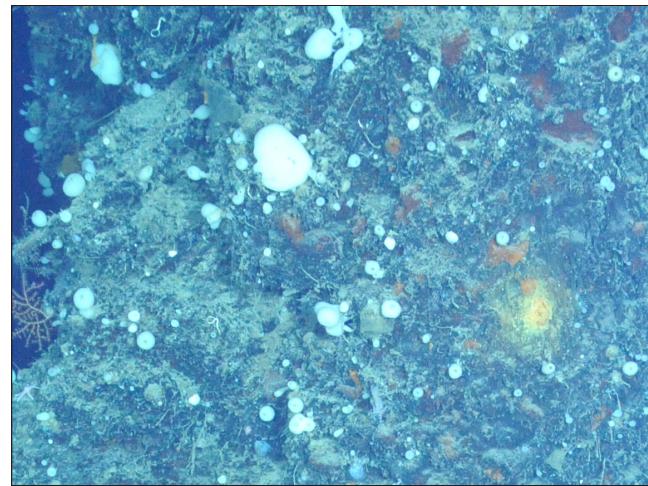
## DEMOSPONGES

## Undetermined species

**Location** Endeavour  
**Depth** 2136 meters  
**Date** 24 July 2011  
**Image ID** 14  
**Confidence** 

**Comments**

Looks like juvenile sponges.



## Undetermined species

**Location** Endeavour  
**Depth** 2907 meters  
**Date** 21 July 2011  
**Image ID** 15  
**Confidence** 

**Comments**

## Undetermined species

**Location** Endeavour  
**Depth** 2145 meters  
**Date** 22 July 2011  
**Image ID** 16  
**Confidence** 

**Comments**

There is also brittle stars.



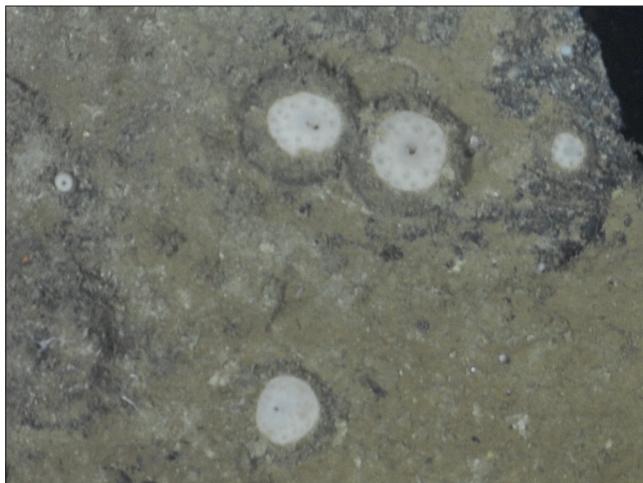
## DEMOSPONGES



## Undetermined species

**Location** Endeavour  
**Depth** 2149 meters  
**Date** 20 September 2010  
**Image ID** 17  
**Confidence**

## Comments



## No common name

*Sphaerotylus n. sp.*

**Location** Endeavour  
**Depth** 2142 meters  
**Date** 14 September 2011  
**Image ID** 18  
**Confidence**

## Comments



## No common name

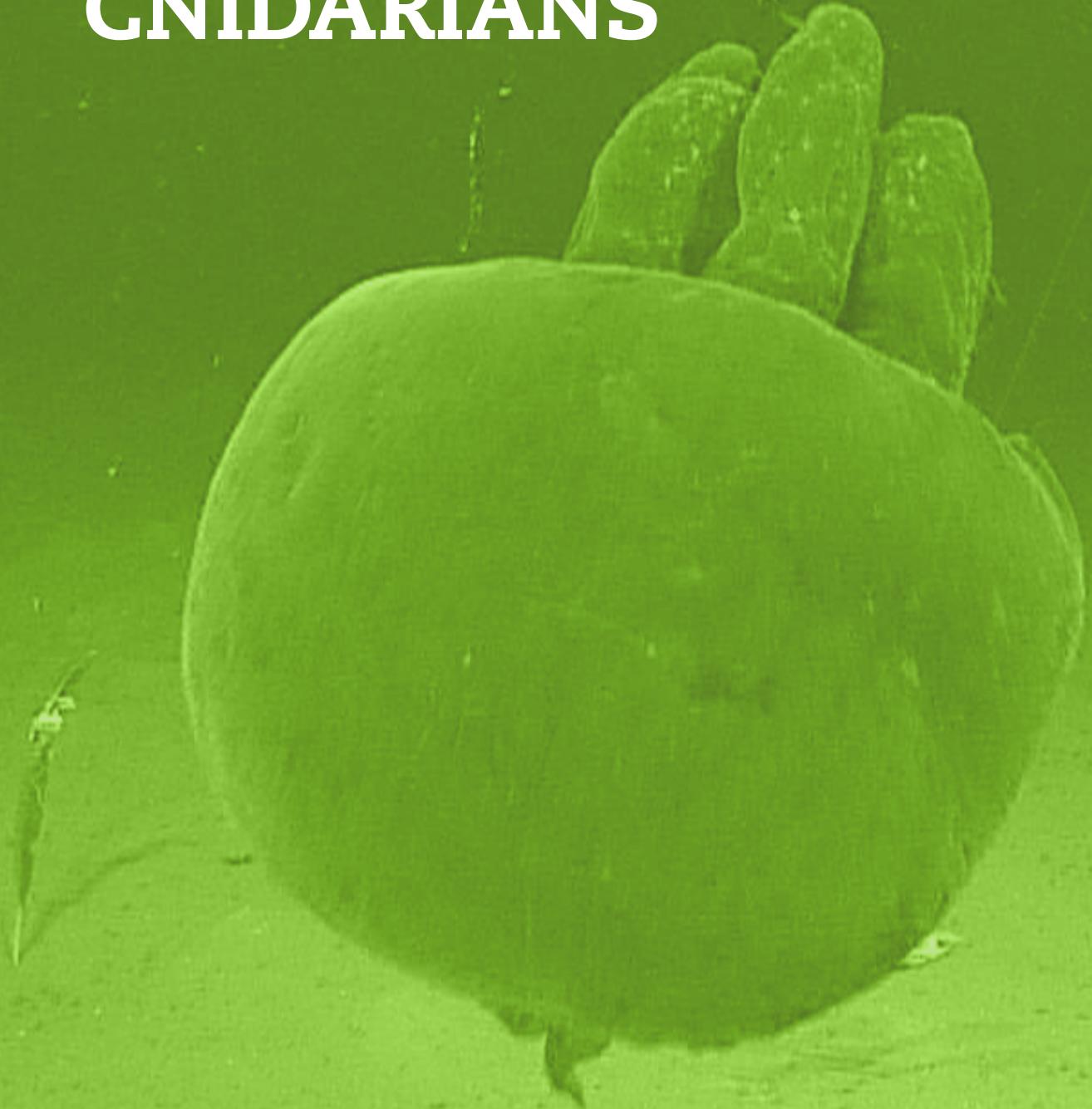
*Asbestopluma sp.*

**Location** Endeavour  
**Depth** 2135 meters  
**Date** 23 July 2011  
**Image ID** 19  
**Confidence**

## Comments

*Asbestopluma* sp. are the white arm like structures.

# CNIDARIANS



## SEA ANEMONES



## Undetermined species

**Location** Barkley Canyon  
**Depth** 396 meters  
**Date** 14 July 2011  
**Image ID** 20  
**Confidence** ○○○

**Comments**

Species is on a cable.



## Undetermined species

**Location** Barkley Canyon  
**Depth** 394 meters  
**Date** 12 July 2011  
**Image ID** 21  
**Confidence** ○○○

**Comments**

It is a member of Actinostolidae.



Pom-Pom anemone  
*Liponema brevicornis*

**Location** Barkley Canyon  
**Depth** 398 meters  
**Date** 13 July 2011  
**Image ID** 22  
**Confidence** ●●○

**Comments**

## SEA ANEMONES

## Corallimorph anemone

*Corallimorphus sp.*

**Location** Barkley Canyon  
**Depth** 393 meters  
**Date** 12 July 2011  
**Image ID** 23  
**Confidence** ● ○ ○

**Comments**

This species has been included in the sea anemone's category because of the similarity but it belongs to another order: Corallimorpharia.



## Undetermined species

**Location** Barkley Canyon  
**Depth** Unknown  
**Date** July 2009  
**Image ID** 24  
**Confidence** ○ ○ ○

**Comments**

## Undetermined species

**Location** ODP 1027  
**Depth** 2539 meters  
**Date** 7 July 2011  
**Image ID** 25  
**Confidence** ○ ○ ○

**Comments**

Species is on an instrument.



## SEA ANEMONES



## Undetermined species

**Location** Barkley Canyon  
**Depth** 395 meters  
**Date** 12 July 2011  
**Image ID** 26  
**Confidence** ○○○

**Comments**

The anemone is on a sea pen.



## Undetermined species

**Location** Barkley Canyon  
**Depth** 391 meters  
**Date** 12 July 2011  
**Image ID** 27  
**Confidence** ○○○

**Comments**

It is a member of Actiniidae.



## Undetermined species

**Location** ODP 1027  
**Depth** 2623 meters  
**Date** 7 July 2011  
**Image ID** 28  
**Confidence** ○○○

**Comments**

It might be a tube-dwelling anemone or a *Bolocera* sp. The anemone is on an cable.

## SEA ANEMONES

Venus flytrap  
Undetermined species

**Location** Unknown  
**Depth** 1728 meters  
**Date** 13 August 2006  
**Image ID** 29  
**Confidence** 

**Comments**

It is a member of Hormathiidae.



## SEA PENS



Droopy sea pen

*Umbellula lindahli*

**Location** ODP 1027  
**Depth** 2660 meters

**Date** 1 September 2009

**Image ID** 30

**Confidence** ● ○ ○

**Comments**



No common name

*Anthoptilum grandiflorum*

**Location** Barkley Canyon  
**Depth** 397 meters

**Date** 13 July 2011

**Image ID** 31

**Confidence** ● ○ ○

**Comments**

## JELLIES

No common name

*Aeginura* sp.

**Location** Endeavour  
**Depth** 2226 meters  
**Date** 16 September 2011  
**Image ID** 38  
**Confidence** ● ○ ○

**Comments**



No common name

*Voragonema pedunculata*

**Location** Barkley Canyon  
**Depth** 984 meters  
**Date** 14 July 2011  
**Image ID** 39  
**Confidence** ● ○ ○

**Comments**



## JELLIES

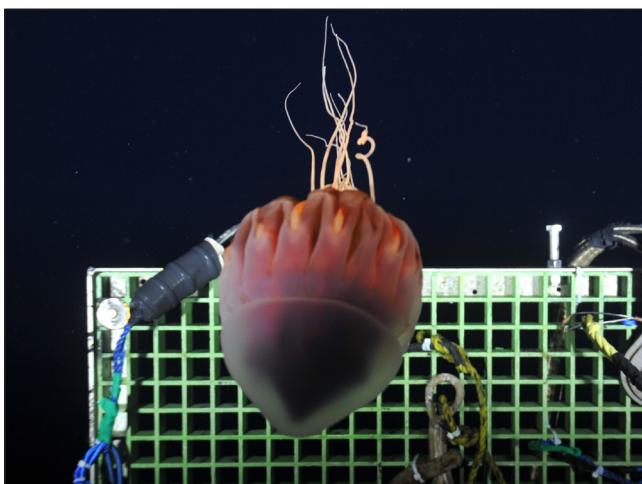


No common name

*Poralia rufescens*

**Location** Barkley Canyon  
**Depth** 985 meters  
**Date** 14 July 2011  
**Image ID** 32  
**Confidence** ● ● ●

**Comments**



No common name

*Paraphyllina* sp.

**Location** OPD 1027  
**Depth** 2162 meters  
**Date** 5 July 2011  
**Image ID** 33  
**Confidence** ● ○ ○

**Comments**



Big red

*Tiburonia granrojo*

**Location** ODP 889  
**Depth** 1255 meters  
**Date** 12 July 2011  
**Image ID** 34  
**Confidence** ● ● ●

**Comments**

## JELLIES

No common name

*Haliscera* sp.

**Location** Endeavour  
**Depth** 1963 meters  
**Date** 7 October 2010  
**Image ID** 35  
**Confidence** ● ○ ○

**Comments**

It needs a better picture to be able to identify the species, but it might be *Haliscera bigelowi*.

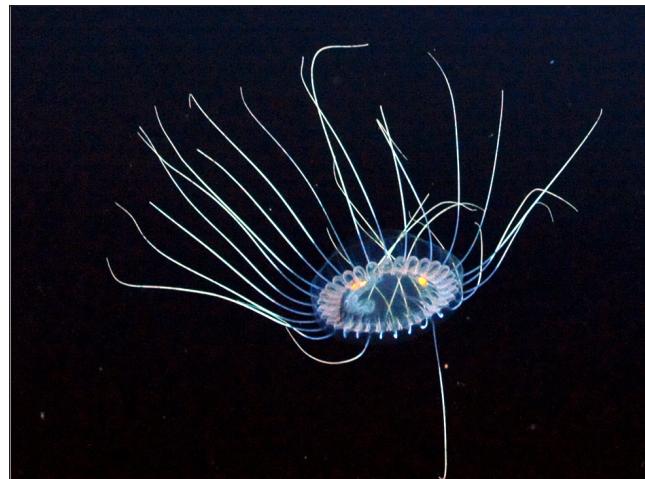


Dinner plate jelly

*Solmissus* sp.

**Location** Endeavour  
**Depth** 653 meters  
**Date** 23 July 2011  
**Image ID** 36  
**Confidence** ● ○ ○

**Comments**

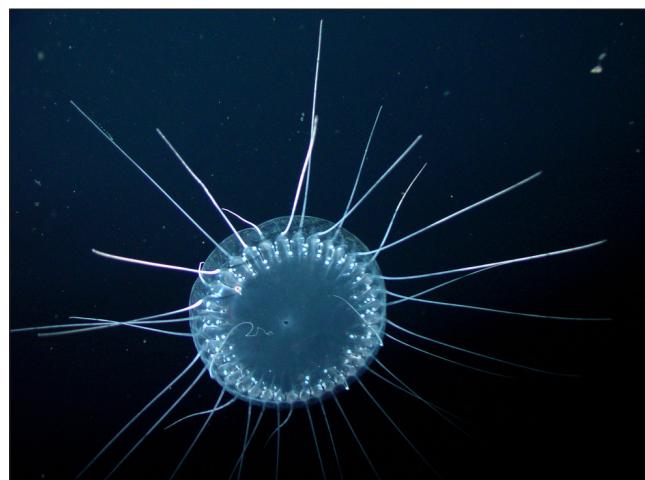


Dinner plate jelly

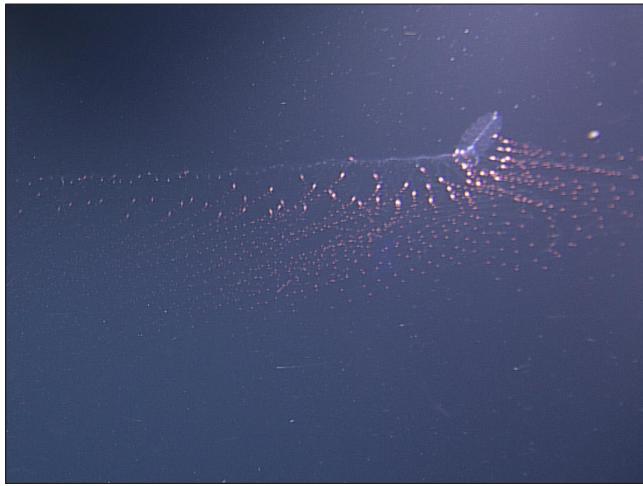
*Solmissus* sp.

**Location** ODP 1027  
**Depth** 1220 meters  
**Date** 4 September 2009  
**Image ID** 37  
**Confidence** ● ○ ○

**Comments**



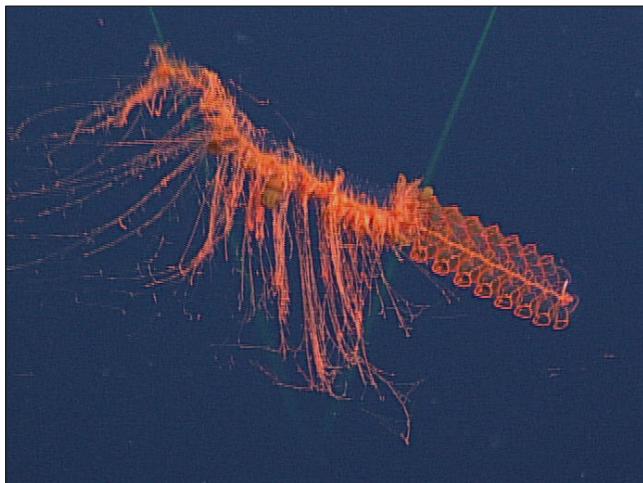
## JELLIES : SIPHONOPHORES



Tailed jelly

*Nanomia bijuga*

**Location** Endeavour  
**Depth** 29 meters  
**Date** 10 July 2011  
**Image ID** 40  
**Confidence** ● ● ○

**Comments**

No common name

*Marrus* sp.

**Location** Endeavour  
**Depth** 894 meters  
**Date** 23 July 2011  
**Image ID** 41  
**Confidence** ● ● ○

**Comments**

It might be *Marrus orthocanna*.

## CORALS

## Undetermined species

**Location** Endeavour  
**Depth** 2227 meters  
**Date** 8 October 2010  
**Image ID** 42  
**Confidence** ● ● ○

**Comments**

It is a member of Antipatharia.



## No common name

*Paragorgia* sp.

**Location** Endeavour  
**Depth** 2227 meters  
**Date** 8 October 2010  
**Image ID** 43  
**Confidence** ● ● ○

**Comments**

## No common name

*Parastenella* sp., *Swiftia* sp., *Lillipathes* sp.

**Location** Endeavour  
**Depth** 2279 meters  
**Date** 7 October 2010  
**Image ID** 44  
**Confidence** ● ● ○

**Comments**

The white corals are probably *Parastenella* sp. The red is probably a *Swiftia* sp. Lower right are black corals, maybe *Lillipathes* sp.



## CORALS



No common name  
*Swiftia* sp. and *Parastenella* sp.

**Location** Endeavour  
**Depth** 2106 meters  
**Date** 16 September 2010  
**Image ID** 45  
**Confidence** ● ● ○

**Comments**

The red one is *Swiftia* sp. probably *S. pacifica* and the white is a member of Primnoid, probably *Parastenella* sp.



No common name  
*Parastenella* sp.

**Location** Endeavour  
**Depth** 2207 meters  
**Date** 20 September 2010  
**Image ID** 46  
**Confidence** ● ● ○

**Comments**



No common name  
*Chrysogorgia* sp.

**Location** Endeavour  
**Depth** 2275 meters  
**Date** 21 July 2011  
**Image ID** 47  
**Confidence** ● ● ○

**Comments**

It might be *Chrysogorgia pinnata*.

## CORALS

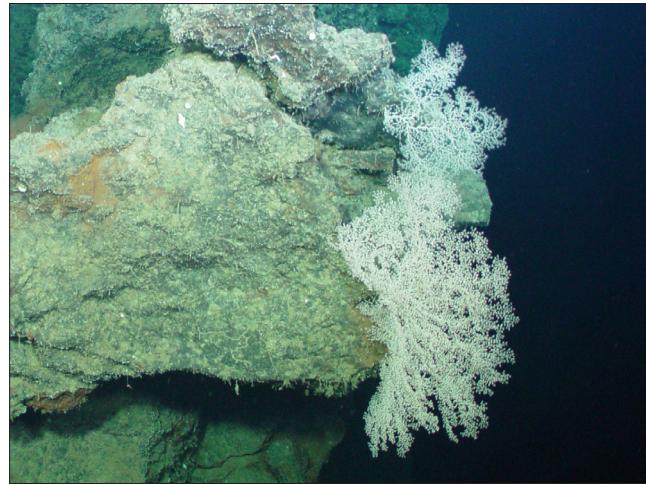
No common name

*Chrysogorgia* sp.

**Location** Endeavour  
**Depth** 2209 meters  
**Date** 7 October 2010  
**Image ID** 48  
**Confidence** ● ● ○

**Comments**

It might be *Chrysogorgia pinnata*.

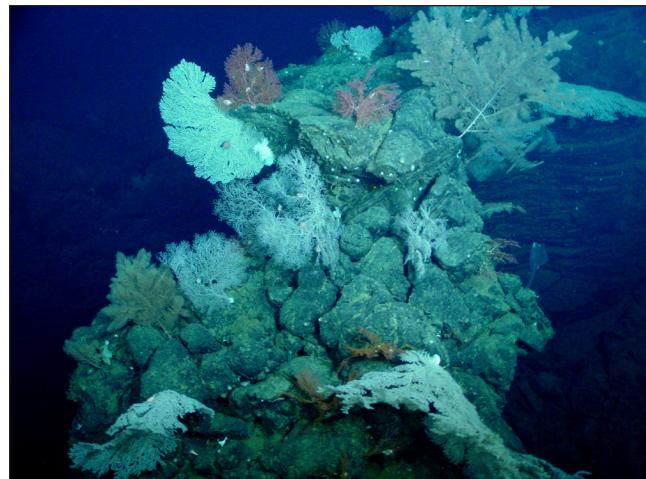


No common name

*Parastenella* sp., *Chrysogorgia pinnata*, *Swiftia* sp. and undetermined species

**Location** Endeavour  
**Depth** 2282 meters  
**Date** 7 October 2010  
**Image ID** 49  
**Confidence** ● ○ ○

**Comments**



No common name

*Swiftia pacifica* and *Parantipathes* sp.

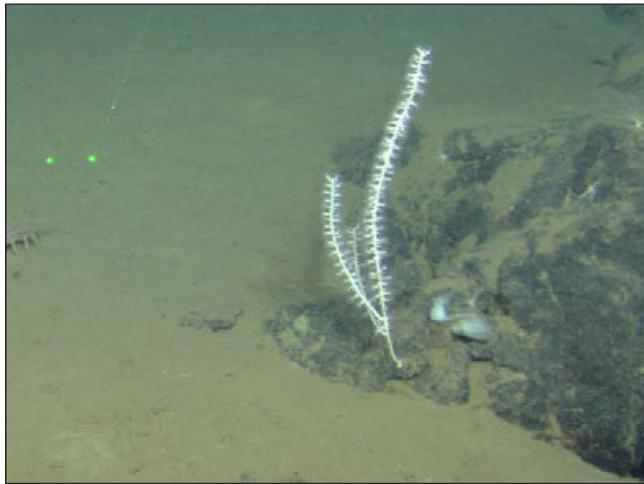
**Location** Endeavour  
**Depth** 2101 meters  
**Date** 26 September 2010  
**Image ID** 50  
**Confidence** ● ○ ○

**Comments**

The left one is probably *Swiftia pacifica* and the right one is a black coral, probably *Parantipathes* sp.



## CORALS



Bamboo coral

*Keratoisis* sp.

**Location** Endeavour  
**Depth** 2317 meters  
**Date** 13 September 2011  
**Image ID** 51  
**Confidence** ● ● ○

**Comments**

It is a member of Isididae.

# CTENOPHORES



## COMB JELLIES



No common name

*Bolinopsis infundibulum*

**Location** Barkley Canyon

889 meters

**Date**

20 September 2011

**Image ID**

52

**Confidence**

●●○

**Comments**



No common name

*Bolinopsis infundibulum*

**Location** Barkley Canyon

390 meters

**Date**

12 July 2011

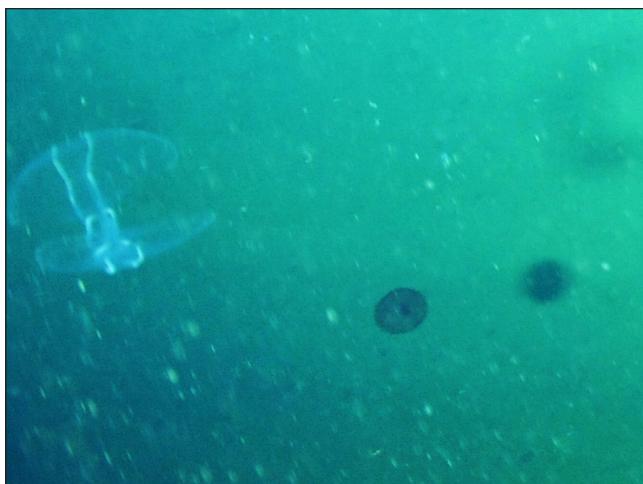
**Image ID**

53

**Confidence**

●●○

**Comments**



No common name

*Bolinopsis infundibulum*

**Location** Barkley Canyon

884 meters

**Date**

20 September 2011

**Image ID**

54

**Confidence**

●●○

**Comments**

## COMB JELLIES

No common name

*Lampocteis* sp.

**Location** Endeavour  
**Depth** 2325 meters  
**Date** 13 September 2011  
**Image ID** 55  
**Confidence** ●●○

**Comments**



Bloody-belly comb jelly

*Lampocteis cruentiventer*

**Location** Endeavour  
**Depth** 2309 meters  
**Date** 13 September 2011  
**Image ID** 56  
**Confidence** ●○○

**Comments**



Bloody-belly comb jelly

*Lampocteis cruentiventer*

**Location** Endeavour  
**Depth** 1710 meters  
**Date** 10 July 2011  
**Image ID** 56  
**Confidence** ●○○

**Comments**







# MOLLUSCS

## OCTOPUSES



No common name

*Graneledone pacifica*

**Location** Endeavour  
**Depth** 2327 meters  
**Date** 20 September 2010  
**Image ID** 58  
**Confidence** ●●●

**Comments**



No common name

*Graneledone pacifica*

**Location** Endeavour  
**Depth** 2313 meters  
**Date** 6 August 2009  
**Image ID** 59  
**Confidence** ●●●

**Comments**

Species is on a cork.



No common name

*Muusoctopus canthylus*

**Location** Endeavour  
**Depth** 2275 meters  
**Date** 21 July 2011  
**Image ID** 60  
**Confidence** ●●●

**Comments**

## OCTOPUSES

## Giant Pacific octopus

*Enteroctopus dofleini*

**Location** Barkley Canyon  
**Depth** 399 meters  
**Date** 12 July 2011  
**Image ID** 62  
**Confidence** 

**Comments**

Species is on an instrument. There are also whelk eggs at the top right laid by an Oregon Triton (*Fusitriton oregonensis*).



## Giant Pacific octopus

*Enteroctopus dofleini*

**Location** Barkley Canyon - survey  
**Depth** 622 meters  
**Date** 5 August 2007  
**Image ID** 63  
**Confidence** 

**Comments**

## SQUID



No common name

*Gonatus* sp.

**Location** Endeavour  
**Depth** 476 meters  
**Date** 11 July 2011  
**Image ID** 64  
**Confidence** ●●○

**Comments**



No common name

*Gonatus* sp.

**Location** Endeavour  
**Depth** 1110 meters  
**Date** 13 September 2011  
**Image ID** 64a  
**Confidence** ●●○

**Comments**



Boreopacific armhook squid

*Gonatopsis borealis*

**Location** Endeavour  
**Depth** 99 meters  
**Date** 11 July 2011  
**Image ID** 65  
**Confidence** ●●●

**Comments**

## SQUID

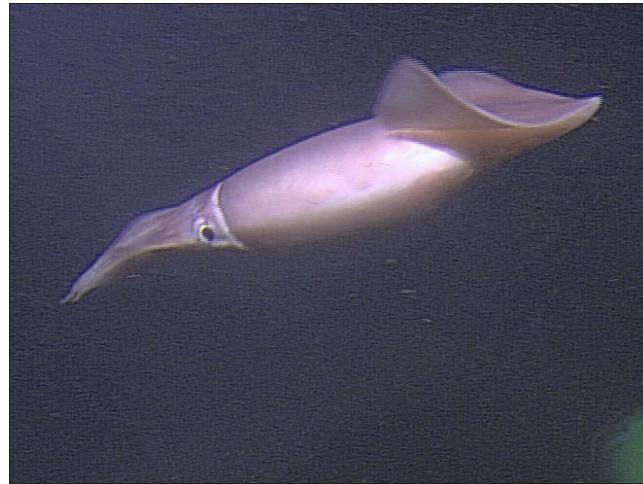
### Humboldt squid

*Dosidicus gigas*

**Location** Barkley Canyon  
**Depth** 394 meters  
**Date** 8 September 2009  
**Image ID** 66  
**Confidence** ●●○

#### Comments

The Humboldt squid are not historically found in our waters. In some years, they migrate up this far north (to feed). In 2009, they were very abundant.



### Cockatoo squid

*Galiteuthis phyllura*

**Location** ODP 889  
**Depth** 445 meters  
**Date** 12 July 2011  
**Image ID** 67  
**Confidence** ●○○

#### Comments



## SNAILS



No common name  
*Buccinum thermophilum*

**Location** Endeavour  
**Depth** 2273 meters  
**Date** 21 July 2011  
**Image ID** 68  
**Confidence** ●●○

**Comments**

It need a higher resolution image to identify this species.

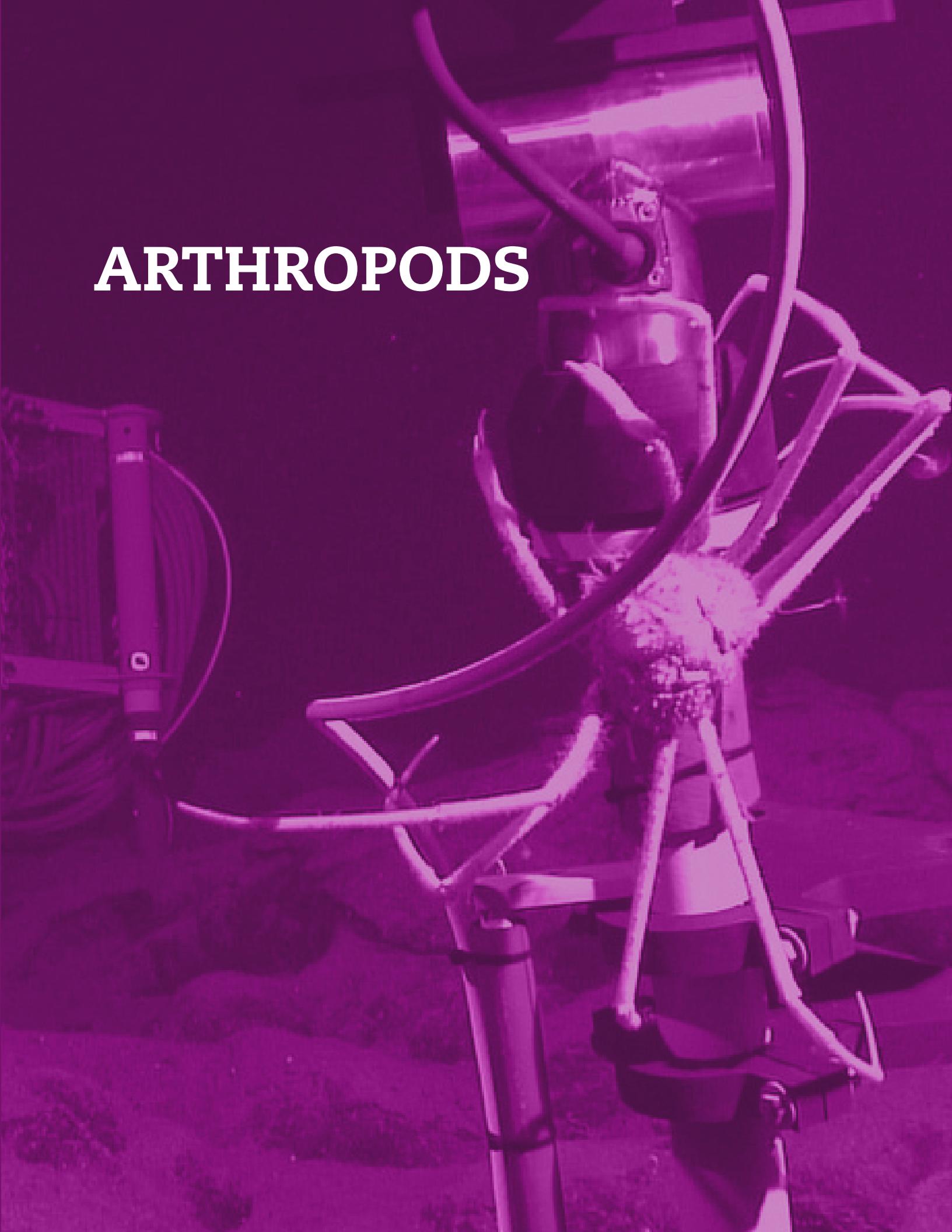


No common name  
*Lepetodrilus fucensis*

**Location** Endeavour  
**Depth** 2273 meters  
**Date** 21 July 2011  
**Image ID** 69  
**Confidence** ●●●

**Comments**

# ARTHROPODS



## CRABS



## Shortspine king crab

*Paralomis multispina*

**Location** ODP 889  
**Depth** 1259 meters  
**Date** 12 July 2011  
**Image ID** 70  
**Confidence** ●●○

**Comments**

3 pairs of walking legs, regular sized spines on carapace.



## Abyssal king crab

*Paralomis verrilli*

**Location** ODP 889  
**Depth** 1257 meters  
**Date** 2 July 2011  
**Image ID** 71  
**Confidence** ●●○

**Comments**

3 pairs of walking legs. Species is on a platform.



## Scarlet king crab

*Lithodes couesi*

**Location** Barkley Canyon  
**Depth** 873 meters  
**Date** 27 August 2009  
**Image ID** 72  
**Confidence** ●●●

**Comments**

3 pairs of walking legs, irregular sized spines on carapace (longer spines on the outside edge).

## CRABS

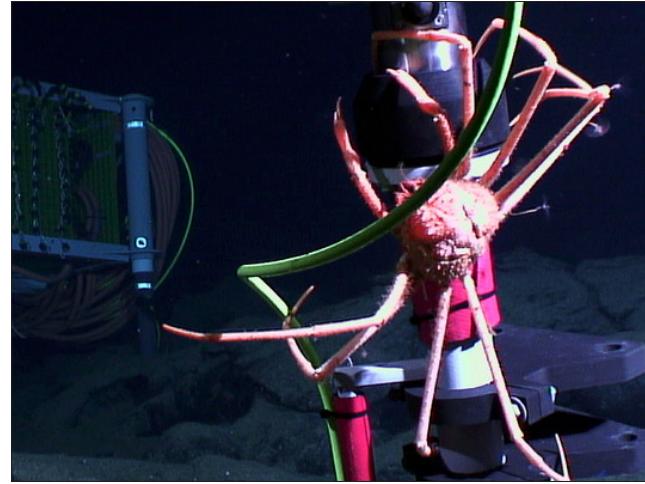
## Deep-sea spider crab

*Macroregonia macrochira*

**Location** Endeavour  
**Depth** 2195 meters  
**Date** 22 September 2010  
**Image ID** 73  
**Confidence** ●●○

**Comments**

4 pairs of walking legs, they are long and slender (characteristic of all spider crabs). Species is on an instrument.



## Grooved tanner crab

*Chionoecetes tanneri*

**Location** Barkley Canyon  
**Depth** 834 meters  
**Date** 9 August 2006  
**Image ID** 74  
**Confidence** ●●●

**Comments**

4 pairs of walking legs.

Squat lobster or Galatheid crab  
Undetermined species

**Location** Endeavour  
**Depth** 2119 meters  
**Date** 26 September 2010  
**Image ID** 75  
**Confidence** ○○○

**Comments**

## CRABS



Hermit crab  
Undetermined species

**Location** ODP 889  
**Depth** 1271 meters  
**Date** 10 August 2006  
**Image ID** 76  
**Confidence** 

**Comments**

It is a member of Paguroidea.

## SHRIMP

No common name

*Pandalopsis* sp.

**Location** Barkley Canyon - survey

**Depth** 1770 meters

**Date** 13 August 2006

**Image ID** 77

**Confidence** ●●○

**Comments**

It might be *Pandalopsis ampla*.



No common name

*Pandalopsis* sp.

**Location** Barkley Canyon - survey

**Depth** 615 meters

**Date** 12 August 2006

**Image ID** 78

**Confidence** ●●○

**Comments**

It might be *Pandalopsis dispar*.



## SEA SPIDERS



## Undetermined species

**Location** ODP 1027  
**Depth** 2659 meters  
**Date** 12 September 2011  
**Image ID** 79  
**Confidence** 

**Comments**

It is a member of *Pycnogonida*.



## No common name

*Ammothea verenae*

**Location** Endeavour  
**Depth** 2188 meters  
**Date** 8 July 2011  
**Image ID** 80  
**Confidence** 

**Comments**

# ECHINODERMS



## SEA STARS

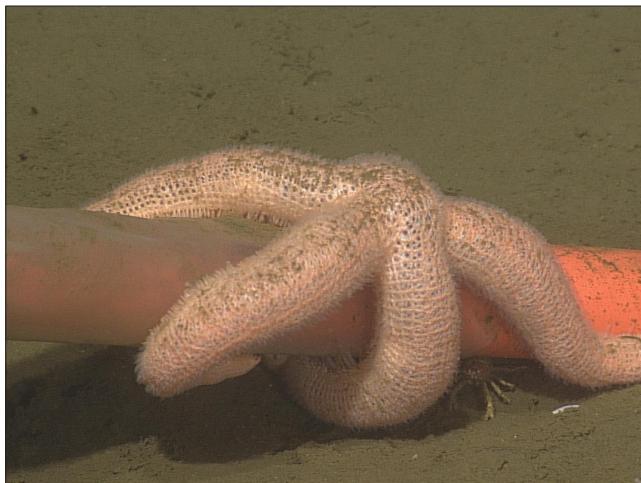


No common name

*Dytaster gilberti*

**Location** Barkley Canyon  
**Depth** 872 meters  
**Date** 20 July 2011  
**Image ID** 81  
**Confidence** ●●○

**Comments**



No common name

*Ampheraster* sp.

**Location** Barkley Canyon  
**Depth** 898 meters  
**Date** 17 September 2011  
**Image ID** 82  
**Confidence** ●○○

**Comments**

Species is on an cable. It is a member of Pedicellasteridae.



Pincushion star

*Hippasteria* sp.

**Location** Barkley Canyon  
**Depth** 892 meters  
**Date** 17 September 2011  
**Image ID** 83  
**Confidence** ●○○

**Comments**

It could be one of the other Hippasterines.

## SEA STARS

## Undetermined species

**Location** ODP 889  
**Depth** 1295 meters  
**Date** 12 July 2011  
**Image ID** 84  
**Confidence** 

**Comments**

It could be either a member of Zoroasteridae or Pedicellasteridae.



## No common name

*Pedicellaster* sp. or *Tarsaster* sp.

**Location** Barkley Canyon  
**Depth** 398 meters  
**Date** 16 July 2011  
**Image ID** 85  
**Confidence** 

**Comments**

Species is on an connector. The small white one is a member of Porcellanasteridae or possibly a member of Pterasteridae.



## No common name

*Rathbunaster californicus*

**Location** Barkley Canyon  
**Depth** 397 meters  
**Date** 12 July 2011  
**Image ID** 86  
**Confidence** 

**Comments**

## SEA STARS

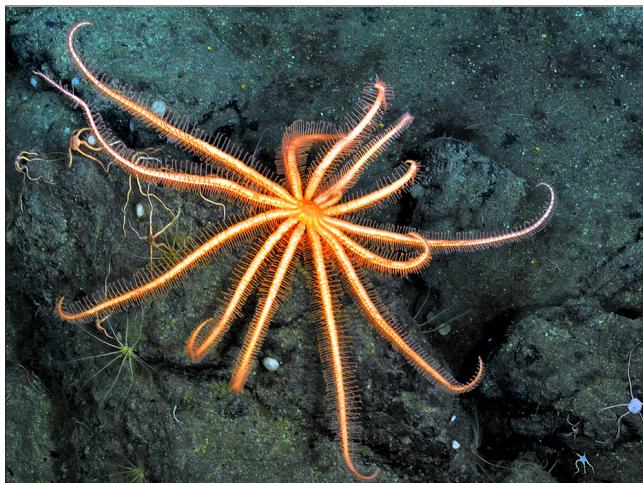


No common name

*Mediaster* sp. or *Ceramaster* sp.

**Location** Endeavour  
**Depth** 2290 meters  
**Date** 20 July 2011  
**Image ID** 87  
**Confidence** ●○○

**Comments**



Brisingid sea star

*Brisinga* sp.

**Location** Endeavour  
**Depth** 2158 meters  
**Date** 23 July 2011  
**Image ID** 88  
**Confidence** ●●●

**Comments**

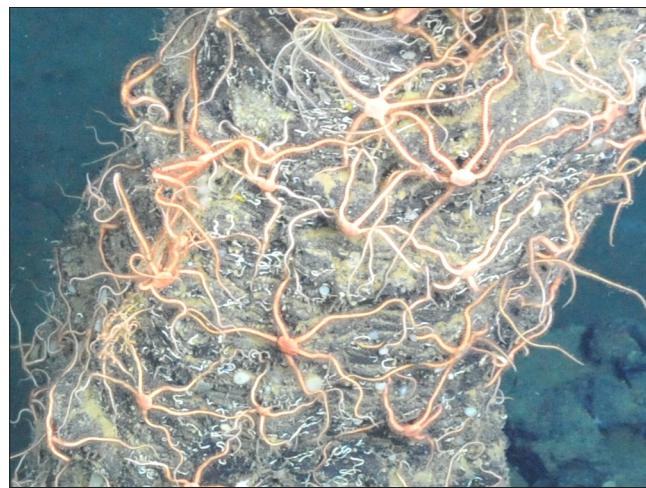
## BRITTLE STARS

No common name

*Spinophiura jolliveti*

**Location** Endeavour  
**Depth** 2144 meters  
**Date** 22 July 2011  
**Image ID** 89  
**Confidence** ●●○

**Comments**

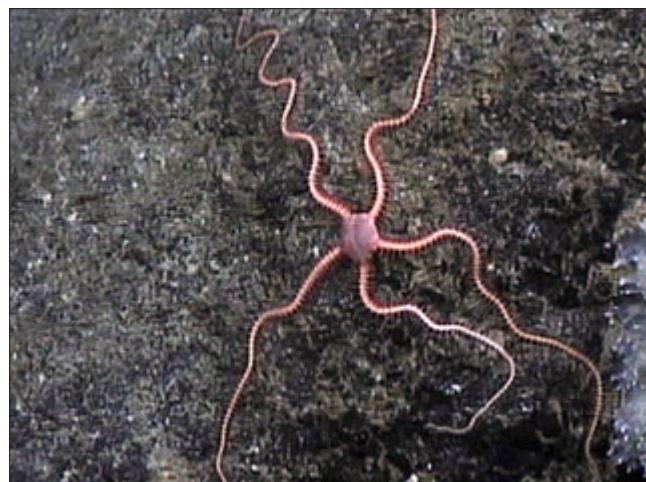


No common name

*Spinophiura jolliveti*

**Location** Endeavour  
**Depth** 2149 meters  
**Date** 20 September 2010  
**Image ID** 90  
**Confidence** ●●○

**Comments**



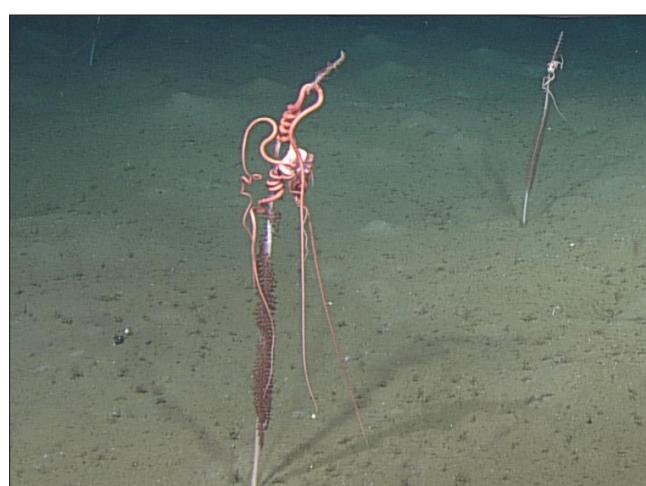
No common name

*Asteronyx* sp.

**Location** ODP 889  
**Depth** 1258 meters  
**Date** 12 July 2011  
**Image ID** 91  
**Confidence** ●●●

**Comments**

The brittle star has climbed up this sea pen. A feeding strategy to capture particles that drift past. It might be *Asteronyx longissimus* or *Asteronyx loveni*.



## CRINOIDS



Feather star  
Undetermined species

**Location** Endeavour  
**Depth** 2145 meters  
**Date** 22 July 2011  
**Image ID** 92  
**Confidence** ○○○

**Comments**

It is a member of Antedonidae. Feather stars refer to the unstalked forms.



Feather star  
Undetermined species

**Location** Endeavour  
**Depth** 2324 meters  
**Date** 13 September 2011  
**Image ID** 92a  
**Confidence** ○○○

**Comments**

It is a member of Antedonidae. Feather stars refer to the unstalked forms.



Yellow stalked crinoid  
*Hyocrinus* sp.

**Location** Endeavour  
**Depth** 2320 meters  
**Date** 25 September 2011  
**Image ID** 93  
**Confidence** ●●●

**Comments**

An alternate common name is sea lily. It's a member of Hyocrinidae.

## SEA URCHINS

No common name

*Sperosoma* sp. or *Tromikosoma* sp.

**Location** Endeavour  
**Depth** 2324 meters  
**Date** 10 July 2011  
**Image ID** 94  
**Confidence** ●○○

**Comments**

It is a member of Echinothurioida.



No common name

*Sperosoma* sp. or *Tromikosoma* sp.

**Location** Endeavour  
**Depth** 2229 meters  
**Date** 21 July 2011  
**Image ID** 95  
**Confidence** ●○○

**Comments**

It is a member of Echinothurioida.



Fragile pink urchin

*Strongylocentrotus fragilis*

**Location** Barkley Canyon  
**Depth** 375 meters  
**Date** 16 July 2011  
**Image ID** 96  
**Confidence** ●●●

**Comments**



## SEA CUCUMBERS



Sea pig

*Scotopanes globosa*

**Location** Endeavour  
**Depth** 2322 meters  
**Date** 13 September 2011  
**Image ID** 97  
**Confidence** ●●●

**Comments**

No common name

*Peniagone* sp. or *Amperima* sp.

**Location** Endeavour  
**Depth** 2322 meters  
**Date** 13 September 2011  
**Image ID** 98  
**Confidence** ●●○

**Comments**

No common name

*Peniagone* sp. or *Amperima* sp.

**Location** Endeavour  
**Depth** 2195 meters  
**Date** 29 September 2011  
**Image ID** 99  
**Confidence** ●●○

**Comments**

## SEA CUCUMBERS

## Deep-sea cucumber

*Pannychia moseleyi***Location** Barkley Canyon - survey**Depth** 588 meters**Date** 5 August 2007**Image ID** 100**Confidence** ●●●**Comments**

## Undetermined species

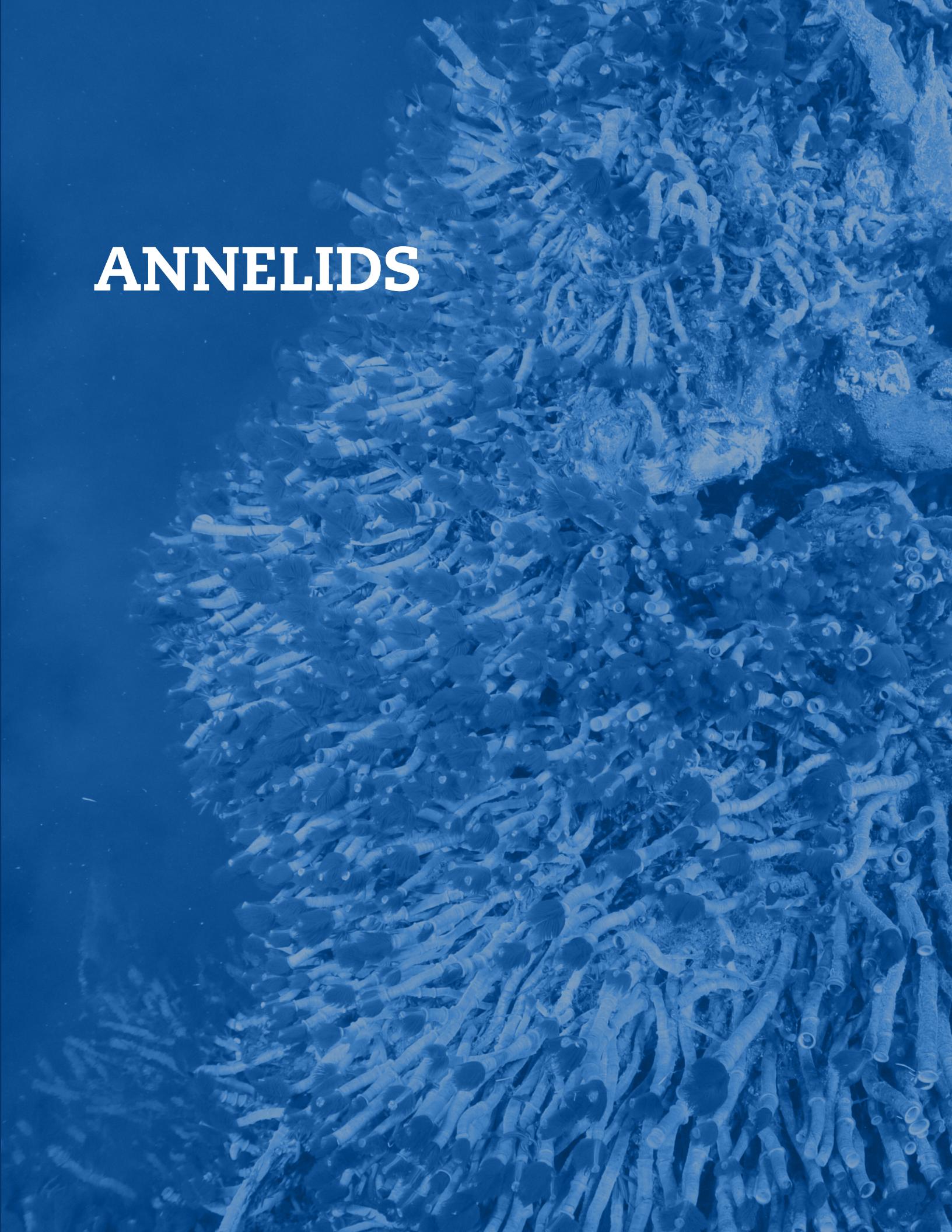
**Location** Endeavour**Depth** 2322 meters**Date** 10 July 2011**Image ID** 101**Confidence** ○○○**Comments**

## Undetermined species

**Location** ODP 1027**Depth** 2659 meters**Date** 12 September 2011**Image ID** 102**Confidence** ○○○**Comments**



# ANNELIDS



## POLYCHAETES

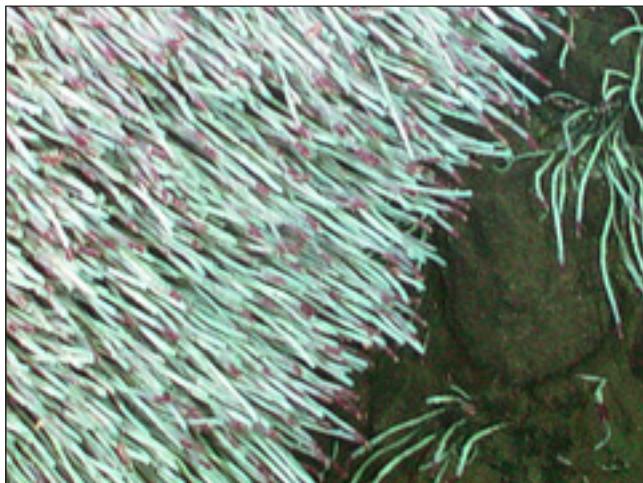


No common name

*Ridgeia piscesae* (short fat)

**Location** Endeavour  
**Depth** 2132 meters  
**Date** 23 July 2011  
**Image ID** 103  
**Confidence** 

**Comments**



No common name

*Ridgeia piscesae* (long skinny)

**Location** Endeavour  
**Depth** 2164 meters  
**Date** 19 September 2010  
**Image ID** 104  
**Confidence** 

**Comments**



No common name

*Branchinotogluma tunnicliffae*

**Location** Endeavour  
**Depth** 2273 meters  
**Date** 21 July 2011  
**Image ID** 105  
**Confidence** 

**Comments**

The pink worm in the left on this picture is *Branchinotogluma tunnicliffae*.

## POLYCHAETES

Tailed Pacific transparent worm  
*Tomopteris* sp.

**Location** Endeavour  
**Depth** 535 meters  
**Date** 23 July 2011  
**Image ID** 106  
**Confidence** ●●○

**Comments**



Scale worm  
Undetermined species

**Location** Endeavour  
**Depth** 2146 meters  
**Date** 12 September 2011  
**Image ID** 107  
**Confidence** ○○○

**Comments**

It is a member of Polynoidae.



Green bomber worm  
*Swima* sp.

**Location** Endeavour  
**Depth** 2146 meters  
**Date** 12 September 2011  
**Image ID** 108  
**Confidence** ●●○

**Comments**





# CHORDATES



## TUNICATES : SALPS



## Undetermined species

**Location** ODP 889  
**Depth** 80 meters  
**Date** 12 July 2011  
**Image ID** 109  
**Confidence**

**Comments**

Although salps appear similar to jellies because of the simple body form and planktonic behavior, they are structurally most closely related to vertebrates, animals with true backbones.



## Undetermined species

**Location** Barkley Canyon  
**Depth** 30 meters  
**Date** 16 September 2010  
**Image ID** 110  
**Confidence**

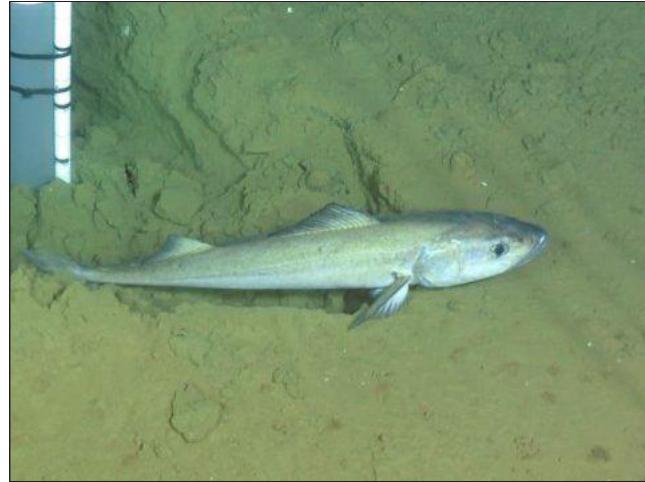
**Comments**

## SABLEFISHES

## Sablefish

*Anoplopoma fimbria***Location** Barkley Canyon**Depth** 892 meters**Date** 20 September 2011**Image ID** 111**Confidence** **Comments**

2 dorsal fins, broad round head, grey, common. Also called black cod.



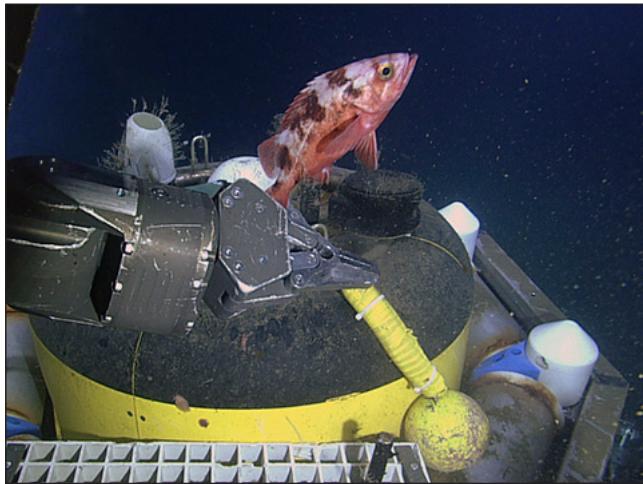
## Sablefish

*Anoplopoma fimbria***Location** Barkley Canyon**Depth** 892 meters**Date** 14 July 2011**Image ID** 112**Confidence** **Comments**

2 dorsal fins, broad round head, grey, common. Also called black cod.



## ROCKFISHES



## Darkblotched rockfish

*Sebastodes crameri*

**Location** Barkley Canyon

**Depth** 390 meters

**Date** 14 May 2010

**Image ID** 113

**Confidence** 

## Comments

Large dark blotches on dorsal side, the middle body blotch makes an H, deep bodied, large schools at Barkley Upper slope were mainly darkblotched.



## Pacific ocean perch

*Sebastodes alutus*

**Location** Barkley Canyon

**Depth** 393 meters

**Date** 12 July 2011

**Image ID** 114

**Confidence** 

## Comments

Large downward facing symphyseal knob (knob on lower jaw), slender bodied, indent on head in between eyes.



## Thornyhead

*Sebastolobus* sp.

**Location** ODP 889

**Depth** 1259 meters

**Date** 12 July 2011

**Image ID** 115

**Confidence** 

## Comments

Head is 1/3 body size, usually lying on sea floor, common in deep waters. It might be a longspine thornyhead. Longspines only get up to about 20 cm long and there is one long dorsal fin spine.

## ROCKFISHES

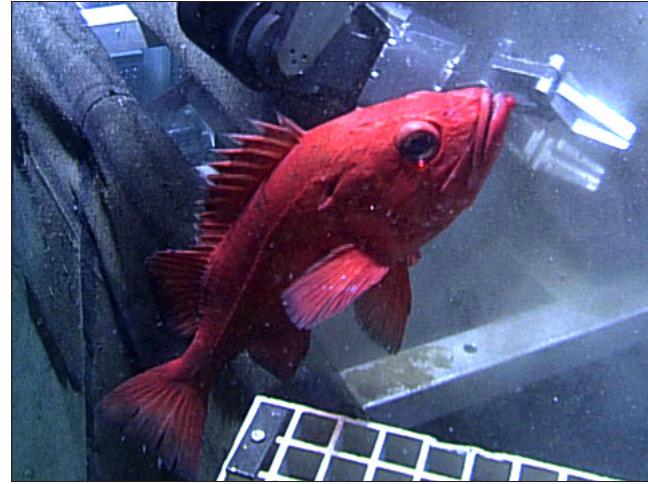
## Blackgill rockfish

*Sebastes melanostomus*

**Location** Barkley Canyon  
**Depth** 400 meters  
**Date** 14 May 2010  
**Image ID** 116  
**Confidence** ● ● ○

**Comments**

Species is on an instrument.



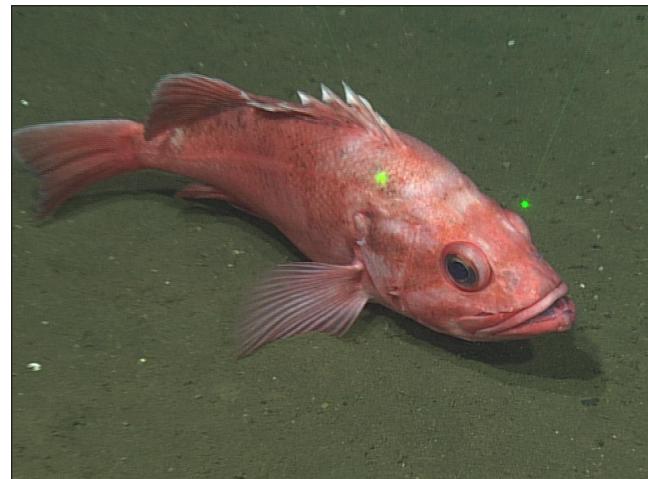
## Vermilion rockfish

*Sebastes miniatus*

**Location** Barkley Canyon  
**Depth** 394 meters  
**Date** 12 July 2011  
**Image ID** 117  
**Confidence** ● ● ○

**Comments**

Several stripes radiating from eye, blotchy colouring, blunt , lack of symphyseal knob, broad pectoral fins.



## RATTAILS (GRENAIDIERS)

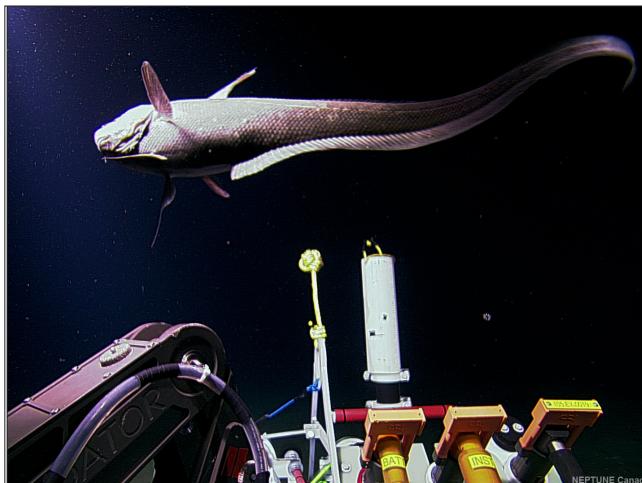


Roughscale rattail  
or Pacific grenadier  
*Coryphaenoides acrolepis*

**Location** ODP 889  
**Depth** 1254 meters  
**Date** 6 September 2009  
**Image ID** 118  
**Confidence** 

**Comments**

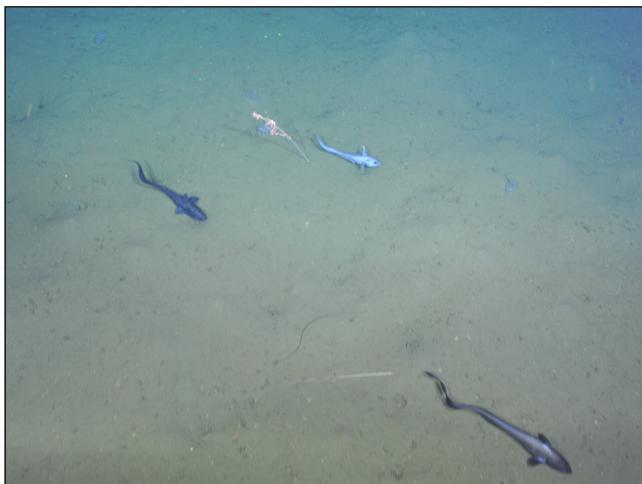
Long, thin tail that comes to a point, dorsal and anal fins extend the length of tail, barbel present on chin, very common at deep locations.



Rattail  
*Coryphaenoides* sp.

**Location** ODP 1027  
**Depth** 2660 meters  
**Date** 14 September 2009  
**Image ID** 119  
**Confidence** 

**Comments**



Rattails  
*Coryphaenoides* sp.

**Location** ODP 889  
**Depth** 1267 meters  
**Date** 12 July 2011  
**Image ID** 120  
**Confidence** 

**Comments**

That picture shows rattails with different color.

## MORID CODS

## Pacific flatnose

*Antimora microlepis***Location** Barkley Canyon**Depth** 1728 meters**Date** 13 August 2006**Image ID** 121**Confidence** **Comments**

First segment of dorsal fin is long, the rest of the dorsal fin extends to the end of the body. Slender caudal peduncle.



## SKATES



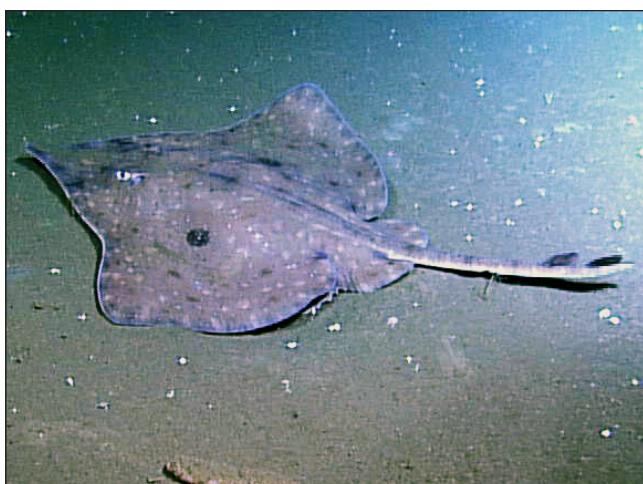
Deep sea skate

*Bathyraja abyssicola***Location** ODP 1027**Depth** 2322 meters**Date** 10 July 2011**Image ID** 122a**Confidence** ● ● ○**Comments**

3 spines mid dorsal.



Aleutian skate

*Bathyraja aleutica***Location** Barkley Canyon**Depth** 399 meters**Date** 13 July 2011**Image ID** 123**Confidence** ● ○ ○**Comments**Broad nose (not pointy). It might be a sandpaper skate (*Bathyraja interrupta*) which would have a rough surface like sandpaper (sharp scales).

Longnose skate

*Raja rhina***Location** Barkley Canyon**Depth** 392 meters**Date** 14 May 2010**Image ID** 124**Confidence** ● ● ●**Comments**

Usually 2 distinct black dots on back, Long pointy snout, ventral side grey. Very common everywhere.

## SKATES

## Roughtail skate

*Bathyraja trachura***Location** Barkley Canyon**Depth** 983 meters**Date** 17 May 2010**Image ID** 125**Confidence** ● ● ○**Comments**

Broad nose (not pointy like the longnose skate), sharp scales on surface, dorsal spines all the way down mid dorsal line.



## RIGHTEYE FLOUNDERS



## Deep sea sole

*Embassichthys bathybius***Location** Barkley Canyon

873 meters

**Depth**

17 September 2011

**Date**

126

**Image ID**

● ● ●

**Confidence****Comments**

Very round body, short caudal peduncle. Middle section of body is very compressed and creates distinct lines on dorsal and ventral sides. Large eyes, usually a dark purple color with lots of spots.



## Dover sole

*Microstomus pacificus***Location** Barkley Canyon

396 meters

**Depth**

13 July 2011

**Date**

127

**Image ID**

● ● ●

**Confidence****Comments**

More slender body than deep sea sole, very "puffy" eyes, can be many different colors, they are slimy if you ever get to hold one. Fairly common.



## Pacific halibut

*Hippoglossus stenolepis***Location** Barkley Canyon

397 meters

**Depth**

14 September 2010

**Date**

128

**Image ID**

● ● ●

**Confidence****Comments**

Very thick body (can get very large, more than 100 pounds), double crescent shape to tail, ventral side is white, fairly common.

## RIGHTEYE FLOUNDERS

Rex sole

*Glyptocephalus zachirus*

**Location** Barkley Canyon

**Depth** 396 meters

**Date** 12 July 2011

**Image ID** 129

**Confidence** 

**Comments**

Slender body, pectoral fin is long and wispy (like a witch's hat).



## HAGFISHES



Hagfish  
*Eptatretus* sp.

**Location** Barkley Canyon  
**Depth** 866 meters  
**Date** 18 September 2011  
**Image ID** 130  
**Confidence** 

**Comments**

It might be *Eptatretus stoutii*. Long slender bodies like a snake, can be attached to fish, often found curled in a ball, very common in Barkley Canyon.



Hagfish  
*Eptatretus* sp.

**Location** Barkley Canyon  
**Depth** 401 meters  
**Date** 12 July 2011  
**Image ID** 131  
**Confidence** 

**Comments**

Long slender bodies like a snake, can be attached to fish, often found curled in a ball, very common in Barkley Canyon.

## BUTTERFISHES

## Pacific pompano

*Peprilus simillimus***Location** Endeavour**Depth** 60 meters**Date** 25 September 2011**Image ID** 132**Confidence** ● ● ○**Comments**

Shaped like a tuna. Caudal fin deeply forked, very compressed body, long low dorsal and anal fins.



## SNAILFISHES



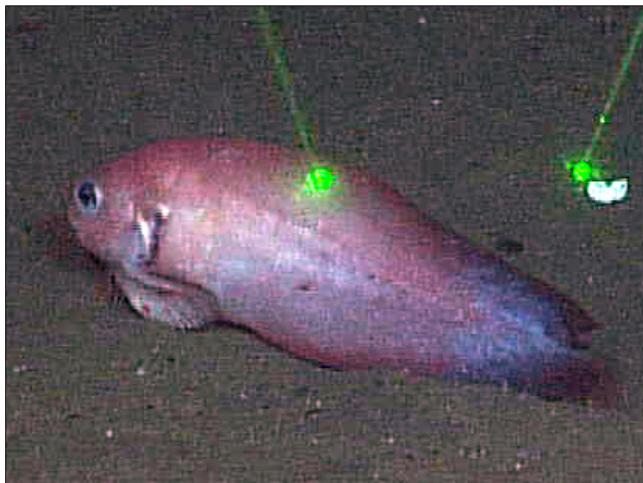
Abyssal snailfish

*Careproctus ovigerus*

**Location** ODP 1027  
**Depth** 2658 meters  
**Date** 12 May 2010  
**Image ID** 133  
**Confidence** ●●○

**Comments**

Easily recognizable with a distinct body shape.



Blacktail snailfish

*Careproctus melanurus*

**Location** Barkley Canyon  
**Depth** 385 meters  
**Date** 13 July 2011  
**Image ID** 134  
**Confidence** ●●●

**Comments**

Pink with black tail. "Flabby" looking fish, and very broad pectoral fins.

## POACHERS

## Blackfin poacher

*Bathyagonus nigripinnis***Location** Barkley Canyon**Depth** 396 meters**Date** 18 July 2011**Image ID** 135**Confidence** ● ● ○**Comments**

Black fins (caudal, pectoral, and dorsal), scales are replaced by spine bearing plates, length to 20 cm, large eye.



## EELPOUTS



No common name

*Licenchelys* sp.

**Location** Barkley Canyon

**Depth** 900 meters

**Date** Unknown

**Image ID** 136

**Confidence** ●○○

**Comments**

Long slender bodies, with dorsal fin extending the length of the body, underside of the head is flattened (bottom dwelling fish).



No common name

*Pyrolycus* sp.

**Location** Endeavour

**Depth** 2273 meters

**Date** 21 July 2011

**Image ID** 137

**Confidence** ●●○

**Comments**



Undetermined species

*Licenchelys* sp.

**Location** Barkley Canyon

**Depth** 890 meters

**Date** 14 July 2011

**Image ID** 138

**Confidence** ●●○

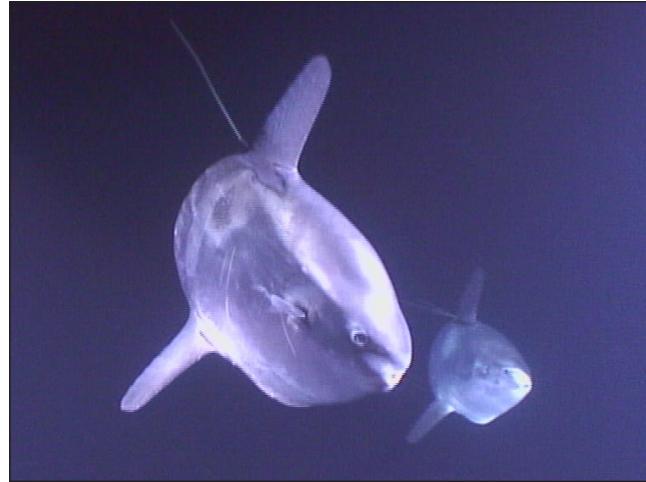
**Comments**

## MOLAS

## Ocean sunfish

*Mola mola***Location** Endeavour**Depth** 21 meters**Date** 2 October 2011**Image ID** 139**Confidence** **Comments**

Very large fish (this is a juvenile), at the surface these fish lay horizontally, dorsal and ventral fins are far back on the body.



CETACEANS

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Pacific white sided dolphins

*Lagenorhynchus obliquidens*

**Location** Barkley Canyon

**Depth** 21 meters

**Date** 27 August 2009

**Image ID** 140

**Confidence** 

**Comments**

An aerial photograph of a forested area. The terrain is covered in a dense pattern of green and yellowish-green vegetation, likely a mix of different tree species or a specific type of ground cover. A single yellow flag is planted in the upper left portion of the image, marking a specific location. A small red dot is also visible on the left side. The overall texture is somewhat mottled and lacks a clear, organized pattern.

**OTHER**

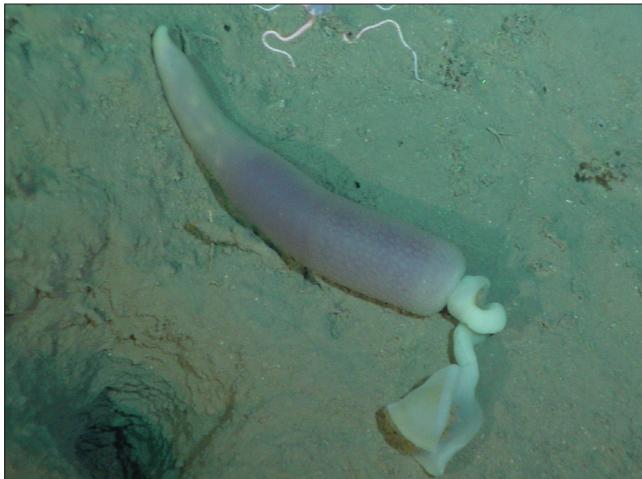


Acorn worm  
Undetermined species

**Location** Endeavour  
**Depth** 2206 meters  
**Date** 7 October 2010  
**Image ID** 141  
**Confidence** ● ● ●

**Comments**

It is a member of Torquaratoridae.



Pink spoon worm  
*Arhynchite pugettensis*

**Location** Barkley Canyon  
**Depth** 1775 meters  
**Date** 13 August 2006  
**Image ID** 142  
**Confidence** ● ● ○

**Comments**

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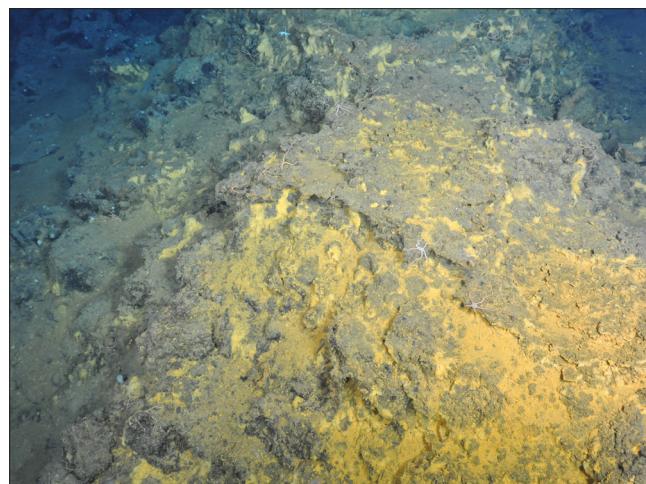
## Bacterial mat

**Location** Endeavour  
**Depth** 2196 meters  
**Date** 29 September 2011  
**Image ID** 143  
**Confidence** ● ● ●  
**Comments**



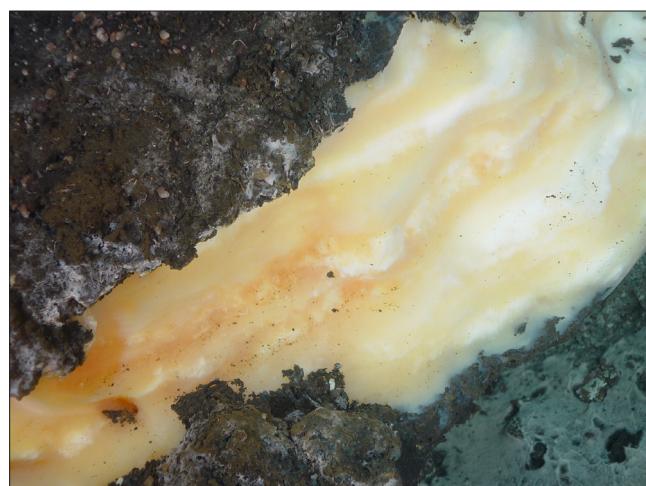
## Sulphides

**Location** Endeavour  
**Depth** 2161 meters  
**Date** 23 July 2011  
**Image ID** 144  
**Confidence** ● ● ○  
**Comments**



## Methane hydrates

**Location** Barkley Canyon  
**Depth** 862 meters  
**Date** 9 August 2006  
**Image ID** 145  
**Confidence** ● ● ●  
**Comments**



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